

No. 694,850.

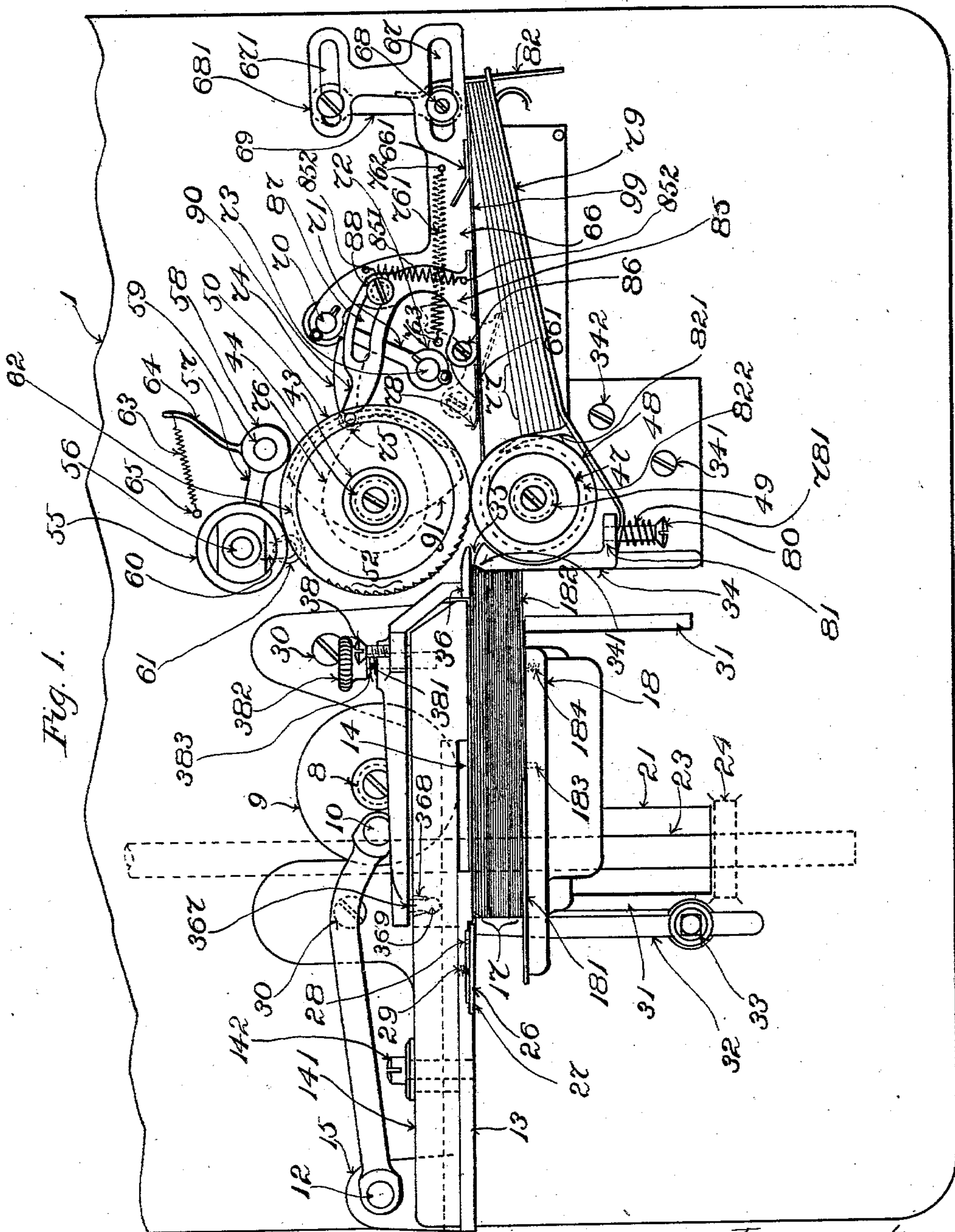
Patented Mar. 4, 1902.

J. FRENCH.  
MAIL MARKING MACHINE.

(Application filed Feb. 18, 1900.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses:

Oscar F. Hill  
Edith J. Anderson.

Inventor:

Joseph French  
by Wm. C. Alver & Randall  
his Attorneys.

**No. 694,850.**

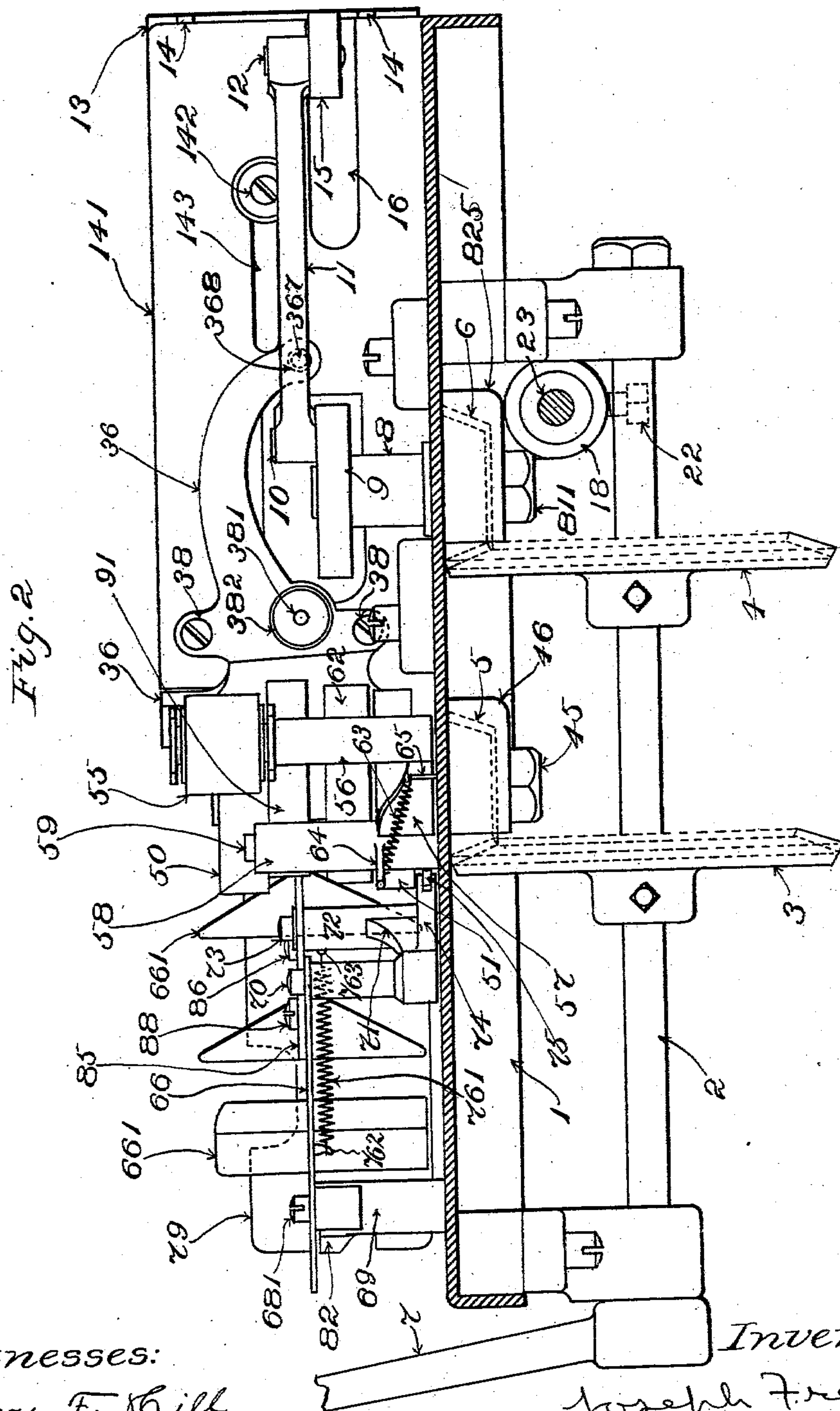
Patented Mar. 4, 1902.

**J. FRENCH.**  
**MAIL MARKING MACHINE.**

(Application filed Feb. 16, 1900.)

**4. Sheets—Sheet 2.**

(No Model.)



*Witnesses:*

Oscar F. Bill  
Edith J. Anderson.

*Inventor*

Joseph French  
by Wm. C. Calver & Randall  
his Attorneys.



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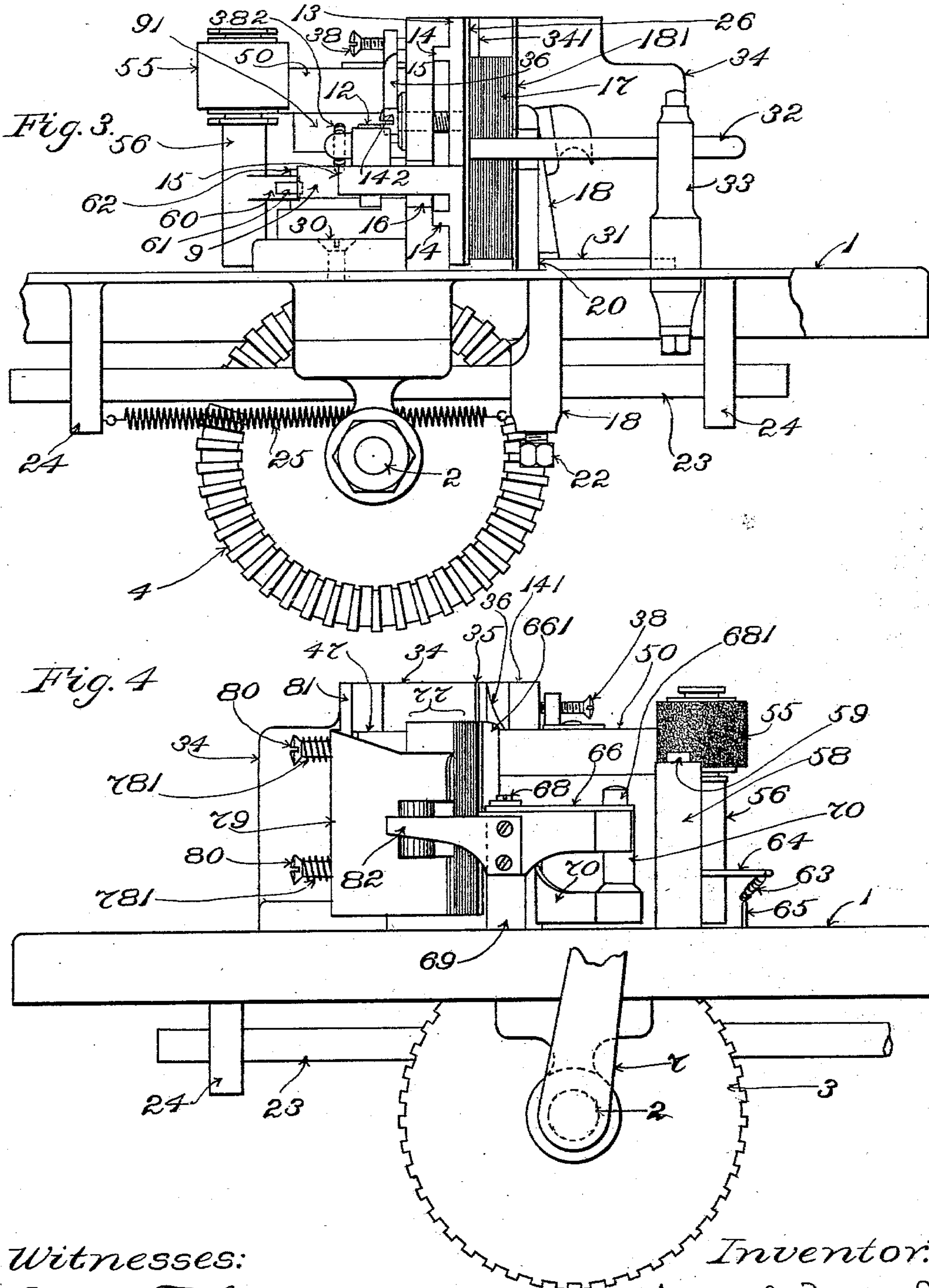
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MAIL MARKING MACHINE.

(Application filed Feb. 16, 1900.)

(No Model.)

4 Sheets—Sheet 3.



Witnesses:

Oscar F. Bill  
Edith J. Anderson.

Inventor:

Joseph French  
by Macleod Albert Randall  
his Attorneys.

**No. 694,850.**

**Patented Mar. 4, 1902.**

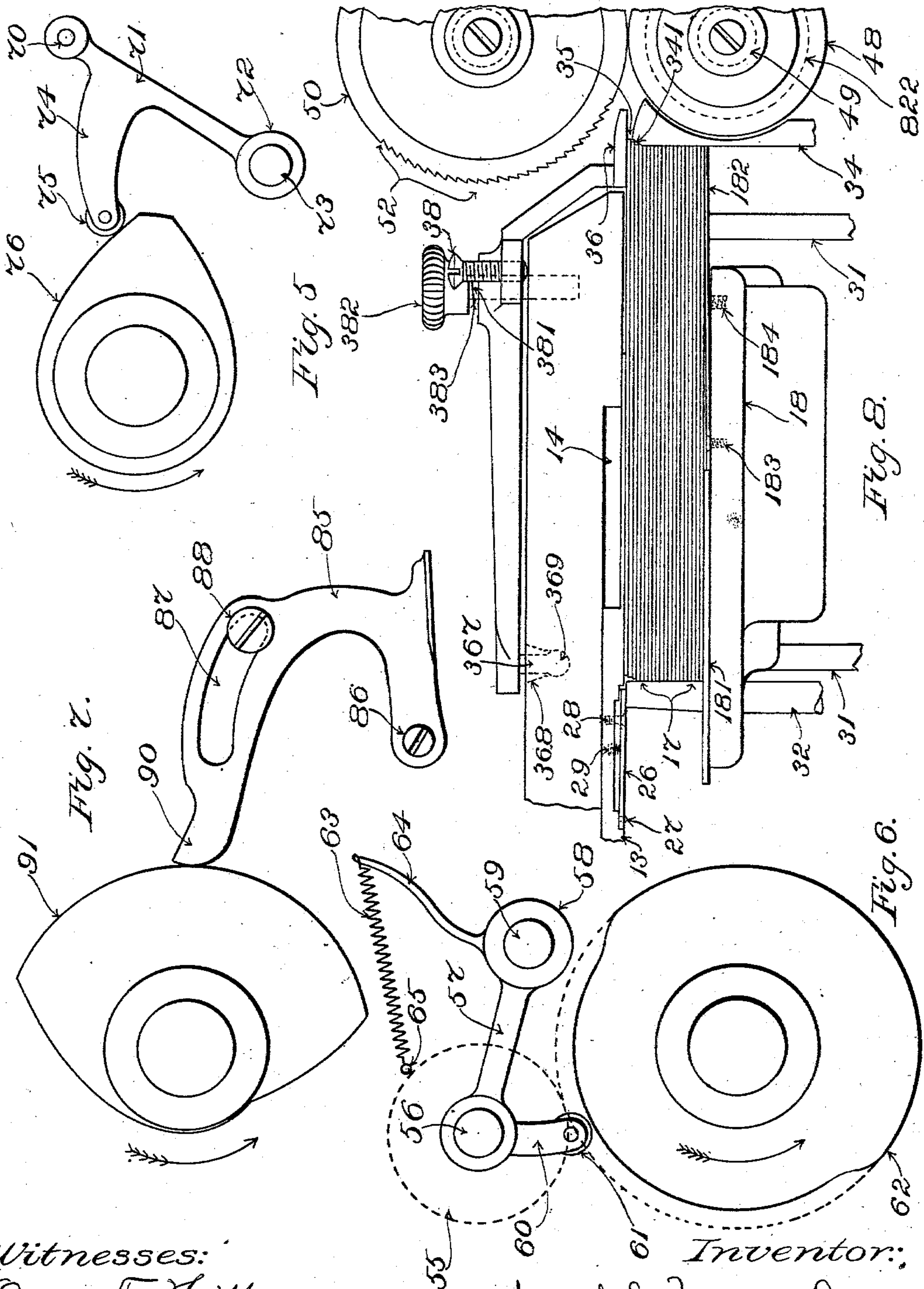
**J. FRENCH.**

## MAIL MARKING MACHINE.

(Application filed Feb. 16, 1900.)

(No Model.)

**4 Sheets—Sheet 4.**



Witnesses:

Oscar F. Hill  
Edith J. Anderson.

*Inventor:*

Joseph French  
by Macleod Calvert Randall  
his Attorneys.



# UNITED STATES PATENT OFFICE.

JOSEPH FRENCH, OF WOONSOCKET, RHODE ISLAND.

## MAIL-MARKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 694,850, dated March 4, 1902.

Application filed February 16, 1900. Serial No. 5,410. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH FRENCH, a citizen of the United States, residing at Woonsocket, in the county of Providence, State of Rhode Island, have invented a certain new and useful Improvement in Mail-Marking Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention will first be described with reference to the accompanying drawings, which illustrate one form or embodiment thereof, and afterward will be defined with respect to its essential characteristics in the claims at the close of this specification.

In the drawings, Figure 1 is a plan view of the machine. Fig. 2 is a rear elevation thereof. Fig. 3 is an end elevation of the same looking from the left in Fig. 1. Fig. 4 is an end elevation looking from the right in Fig. 1. Fig. 5 is a detail plan of the pusher-operating cam and arm. Fig. 6 is a detail plan of the ink-roll and its operating-cam. Fig. 7 is a detail plan of the retainer and its cam. Fig. 8 is an enlarged plan view of the supply-stack and adjacent mechanism.

While I have termed my device a "mail-marking machine" and while I have illustrated and described a machine especially adapted in its minor features of construction to handle cards, it is not in its main features limited to that use nor to the marking of mail as distinguished from other forms of printing.

The operative parts of the machine are shown as mounted on a table 1, the actuating-shaft 2 being supported beneath the table and having suitable connections with the parts above the same. Such connections are indicated at 3 and 4 in the form of bevel-gears, which mesh with bevel-pinions 5 and 6, respectively. The shaft may be driven either by power or by hand, a crank 7 for the latter mode of operation being indicated in Figs. 2 and 4. The bevel-pinion 6 is fast upon the lower end of the sleeve 8, which carries a disk 9 above the table on its upper end. The sleeve 8 rotates on a stud (not visible in the drawings) affixed by a nut 811 to the bottom of a box or depression 825, attached to the under side of the table and containing the bevel-pinion 6. The disk 9 has an eccentric-pin 10, on which is journaled one end of a pitman 11,

the other end of which latter is journaled upon a pin 12 on a feed-slide 13, whereby the feed-slide is constantly reciprocated in a horizontal direction when the machine is in operation. The feed-slide runs in ways 14, Fig. 3, in a fixed backing-plate 141, disposed vertically and firmly secured by screws 30 30 to the table. The feed-slide is retained in the ways by the head of a screw 142, which passes through a slot 143 in the backing-plate and enters a hole tapped in the rear face of the feed-slide. The pin 12 is shown as mounted upon a lug 15 on the feed-slide, extending rearward through a slot 16 in the backing-plate.

The packet of cards or other mail-matter to be canceled is stacked in front of the backing-plate and feed-slide, as shown at 17 in Figs. 1, 3, and 8, and is pressed against the feed-slide by a follower 18. The follower 18 has legs 20, which rest on the upper surface of the table, one of which legs is shown in Fig. 3. The follower extends downward through a slot 21 in the table and is fixed by a set-screw 22 upon a slide-rod 23, running through holes in ears 24 24, depending from the table. A spiral spring 25 connects the follower with one of the ears 24 and serves to cause the follower to press with considerable force upon the stack of cards 17 and hold them flat and in position to be properly fed one by one to the canceling mechanism.

A feeding-shoulder on the feed-slide is constituted by a dog 26 set into the same. The dog 26 is held at one vertical edge by rivets 27, which allow it a slight play, thereby acting as a hinge, and at the other vertical edge by an adjusting-screw 28, which regulates its extent of outward movement, while a spiral spring (indicated at 29) is confined between the dog and the feed-slide, being let into a recess in the latter. When the dog in the retraction of the feed-slide has cleared the stack of cards, it springs out sufficiently to catch the rear edge of the foremost card in its return or forward movement and feed it to the canceling mechanism.

The cards in the stack 17 rest upon ways or rails 31 31 on the table and are confined between a horizontal rod 32, extending rearward from a post 33 on the table at the left, terminating just clear of the face of the feed-slide, and a side plate 34 at the right fixed



to the table by screws 341 342. The side plate 34 terminates sufficiently forward of the plane of the backing-plate 141 to form one side of a throat 35, through which the cards 5 are successively fed by the feed-slide. The opposite side of the throat 35 is formed by an adjustable throat-plate 36.

The throat-plate 36 is supported upon the rear face of the backing-plate 141 and extends around its right-hand end, as the machine is viewed in Fig. 1. Suitable means are provided for adjustably limiting the extent of the forward motion of the throat-plate and for holding it yielding in its forward position, so that it will normally maintain only a sufficient opening of the throat 35 to permit the passage of a single thickness of card. If, however, the opening of the throat 35 requires to be momentarily enlarged to admit somewhat more than the ordinary thickness of card, as where any portion of the card being fed is roughened, torn, or otherwise thickened, the throat-plate will yield and allow such extra thickness to pass. To this end I have provided the throat-plate with upper and lower set-screws 38 38, which make contact with the rear face of the backing-plate 141. Furthermore, a screw-threaded pin 381 projects from the backing-plate, passing loosely through a hole in the throat-plate, and on this pin a milled nut 382 turns, a spiral spring 383 being confined between the nut and the throat-plate, whereby the set-screws 38 are held in yielding contact with the backing-plate. The set-screws 38 38 enable the normal width of the said throat, at the top and bottom thereof, respectively, to be regulated or varied independently.

The rear end of the throat-plate 36 is extended across the rear face of the backing-plate and carries a pin 367, entering a corresponding recess 368 in the backing-plate. As is more clearly shown in Fig. 8, the recess 368 extends nearly through the thickness of the backing-plate 141 and is of greater diameter than the stem of the pin 367 and has a hollowed or hemispherical bottom. The end 369 of the pin 367 is enlarged to fit this hollowed bottom, which therefore forms a bearing on which the pin may rock freely during the yielding motion of the throat-plate. The latter, as will be perceived from the foregoing description, rests normally on three points of contact—namely, the two set-screws 38 38 and the pin 367—and is yieldingly held in this position by the spring 383, whose tension is adjusted accurately by the milled nut 382. When the passage of a thick or thickened card occurs, the throat-plate is caused to yield, and either its upper portion or its lower portion is capable of yielding without the whole throat-plate being bodily displaced, the end 369 of the pin 367 in every case rocking in contact with the bottom of the recess 368. Thus with the least possible extent of motion and with the least possible friction the throat-plate is permitted to accommodate itself to in-

equalities in the card being fed and at the same time to prevent more than one card from passing at a time. It will be noted that the point of contact of the pin 367 with the bottom of the recess 368 is brought as nearly as possible into the same plane as the operative end of the throat-plate, so that the motion of the latter around the said point of contact as a universal pivot is as nearly as possible directly backward from the opposing surface of the side plate 34. The entire construction permits the throat-plate to perform its functions under a minimum tension of the spring 383.

For the especial purpose of enabling the machine to handle cards varying greatly in thickness, which, however, is not the case with ordinary mail-cards, the side plate 34 is formed, as shown most clearly in Fig. 8, with a bevel 341 on that portion of its side face immediately adjacent to the throat 35. I have determined that a certain degree of bevel can be employed which will assist in properly feeding to the throat a very thick card, at the same time preventing two very thin cards from passing through the throat at one time. A materially greater degree of bevel permits two very thin cards to be fed together in some cases, while a materially smaller degree of bevel obstructs the passage of a very thick card. I have determined that the proper degree of bevel to secure the desired result is about thirty degrees to the plane of the left-hand side of the side plate or sixty degrees to the plane of the cards being fed. Some variation from this precise angle may of course be made without materially impairing the function of the bevel.

The follower 18 is provided on the face thereof next to the stack of cards 17 with a fixed plate 181 and a yielding plate 182, the former being opposite the feed-slide 13 and the latter opposite the throat-plate 36. The yielding plate 182 is maintained normally in an intermediate position, from which it may be either advanced or retracted. Specifically in the drawings it is shown as of less thickness than the fixed plate 181 and is hinged at the edge nearest the latter, as by loosely-fitting screws 183, which allow its free end a limited amount of play toward and from the follower. A spiral spring 184 is confined between the plate 182 and the follower, preferably being let partly into a recess 185 in the latter. The spring 184 is weaker than the spring 383 of the throat-plate.

The left-hand end of the stack 17 is pressed upon strongly by the fixed plate 181 under the whole tension of the spring 25, attached to the follower, and thereby the rear edge of the foremost card in the stack is held perfectly flat in position to be properly engaged in the advance of the feed-dog 26.

When the follower is in its normal position, compressing a stack 17 of uncanceled cards against the feed-slide and throat-plate, the yielding plate 182 normally stands at a slight angle away from the follower, as shown



in Fig. 1, pressing against the right-hand end of the stack and causing the entire right-hand edge of the leading card of the stack to make close contact with the throat-plate and to be fed properly through the throat to the canceling mechanism. In case, however, from any cause the thickness of the entire stack should be greatest at the right-hand end thereof—as, for instance, by the presence somewhere in the stack of one or more cards somewhat roughened, torn, or crumpled at that end—there would be a tendency of the throat-plate to yield to accommodate such additional thickness, and if the throat-plate yielded the throat might be so much enlarged as to allow the passage of two cards at once irrespective of the presence or absence of the bevel 341, thereby either damaging the cards or feeding the second one through the canceling mechanism in an uncanceled condition. The yielding plate 182 prevents this contingency from occurring, since it yields before the throat-plate yields. On the other hand, the opposite motion of the yielding plate 182 away from the follower takes place when the cards are being normally fed each time such feeding occurs—that is to say, each time a card is completely withdrawn from the stack through the throat 35 the right-hand end of the stack is pressed up into close contact with the throat-plate by the pressure of the yielding plate 182. The latter thus insures the proper presentation of the right-hand edge of each card to the throat 35 up to the very last card of the stack.

When a card is fed forward through the throat 35, it is seized by a canceling-cylinder and is drawn completely out from the stack 17, being at the same time canceled. The canceling-cylinder is thus adapted to draw forward the card that is being canceled and prevents it from advancing at a different rate of speed from the surface speed of the canceling-cylinder, which might be the case if other means than the cylinder itself were relied upon to perform the feeding function and which might cause a card to buckle and tear. This mode of feeding also leaves the feed-slide 13 free to begin its retraction as soon as the forward edge of the card has been engaged by the canceling-cylinder, allowing a slower and smoother retraction of the feed-slide within a given period of time.

The canceling-cylinder is mounted on the upper end of a sleeve 43, on the lower end of which is fixed the beveled pinion 5, already mentioned, which derives motion from the shaft 2. The sleeve 43 rotates on a stud 44, affixed by a nut 45 to the bottom of a box 46, attached beneath the table and containing the bevel-pinion 5. 47 is an idle roller, preferably covered with rubber, as at 48, rotating on a stud 49, affixed to the table and being positioned in contact with the canceling-cylinder at a point directly opposite the throat 35, whereby the card fed through the throat enters the bite of the canceling-cylinder and

idle roller and is thereafter drawn through them, being canceled during its passage.

The canceling-cylinder is in two parts 50 and 51 the former being at a height to draw forward the upper portion of the card and perform the canceling operation, while the lower part 51 draws forward the lower portion of the card. That portion of each part of the cylinder which draws forward the card prior to its cancellation is corrugated or otherwise roughened, as at 52. The canceling-stamp occupies any required portion of the remainder of the upper part of the cylinder.

The canceling-stamp is inked by a roller 55. The latter is mounted to revolve loosely on the upper portion of a post 56, attached to the outer end of an arm 57, projecting from a sleeve 58, which is journaled upon a vertical pin 59, affixed to the table. From the post 56 projects an arm 60, having a friction-roll 61, which bears against a cam 62, affixed to the sleeve 43 between the upper and lower portions of the canceling-cylinder. (See more particularly Fig. 6.) The ink-roller is pressed inward by a spring 63, which is attached to one end to an arm 64, projecting from the sleeve 58, and at the other end to a post 65 on the table. The action of the cam 62 is to hold the ink-roller out of contact with the canceling-cylinder, except during the time when the canceling-stamp is passing under it.

When the card has been fed completely past the point of contact between the canceling-cylinder and the idle roller 44, it comes under the action of the pusher 66. The right-hand end of the latter has two slots 67 671, loosely through which pass, respectively, screws 68 and 681, which screw into the upper end of a bracket 69, affixed to the table. The pusher is of somewhat irregular outline in plan. It is supported at its rear end on a pin 70, which projects vertically upward from an arm 71, the latter extending outward from a sleeve 72, which is journaled on a stud 73, affixed to the table. There is a projection 74 on the side of the arm 71 nearest the canceling-cylinder, which is provided with a roller 75. The latter bears against a cam 76 on the sleeve 43 below the lower part 51 of the canceling-cylinder thereon. The cam 76 is of such a shape that as soon as the card is freed from the nip of the canceling-cylinder and idle roller the pusher 66 moves slightly forward and at the same time swings forward, as shown in Fig. 1, pressing the rear edge of the card, as 99, against the surface of the idle roller and causing the latter to assist in moving the card 99 toward the stack of cards 77, which have already been canceled. The pusher 66 is provided with vertical flanges 661 661 at its front edge to afford a broad surface of contact with the card on which the pusher is operating. When the pusher has completed its motion in carrying the card 99, which has just been canceled, over to the stack of cards previously canceled, it is allowed by the cam 76 to return under the retractile force of a suit-



able spring 761, one end of which is attached to a pin 762 on the pusher and the other end thereof to a pin 763 on the table of the machine, to a position somewhat farther back than that shown in Fig. 1, so that its front face is parallel with the direction of feed of the cards through the canceling mechanism and its left-hand end 78 is withdrawn into the annular recess between the upper and lower parts of the canceling-cylinder, so that it is impossible for the following card to pass back of the pusher in case it should be so bent as to curve backward after passing through the canceling mechanism.

In Fig. 2 the cards shown in Fig. 1 are omitted for the sake of clearness.

The stack of cards 77, which have been canceled, are compressed at their forward or right-hand edges between a yielding plate 79 and the right-hand end of the pusher 66. The plate 79 is pivoted or hinged at its left-hand end upon screws 80 80 on a flange 81 of the side plate 34, springs 781 781 being confined on the said screws between the heads thereof and the plate 79 and pressing rearward the free end of the latter. 82 is an end guard attached to the bracket 69 and projecting forward far enough to retain the right-hand edges of the cards in the stack 77 from lateral escape. 821 is a corresponding end guard at the left-hand end of the stack, its tongue or end projecting into an annular recess, (indicated at 822 in Fig. 1 at mid-length of the idle roller 47.)

By compressing the cards only at their right-hand edges I provide for permitting their left-hand edges to assume a somewhat spread or loose position, whereby the postmarks just affixed and still moist are prevented from coming off on the backs of the contiguous cards in the stack. If, however, the cards in the stack 77 were allowed to spread sufficiently to come opposite the line of advance of the next card being canceled as it issues from the canceling mechanism and while the pusher is in its most retracted position the said card would not take its place properly as the last one of the stack 77, but would either be inserted at some intermediate point in the stack or would strike against the edges of the cards already in the stack and become bent or crumpled up. In some uses of the machine it is important that the original order of the cards be strictly preserved. Accordingly I provide a retainer 85 in connection with the pusher 66, so arranged as to press lightly against the left-hand end of stack 77 when the pusher is being retracted and until the next card has been fed forward far enough to overlap that end of the stack. After this has occurred it is immaterial how far the cards of the stack spread at their left-hand edges, inasmuch as when they do spread they come in contact with the front face of the card being fed forward, and the latter is properly brought to its position as the rear card of the stack, no buckling or crumpling

of any of the cards being possible. The retainer 85 is therefore so actuated that as soon as the card which has just been canceled has been fed forward far enough to overlap the cards already in the stack the retainer is allowed to retire out of the way of the incoming card to its original position flush with the front face of the pusher 66. This position it retains during the ensuing forward movement of the pusher while the moving card 99 is being transferred into its place in the stack 77.

In order to actuate the retainer 85 in the manner just described, I pivot it on the screw 86 on the pusher 66 and provide it with a slot 87, through which passes a guiding-screw 88, also inserted in the pusher. (See more particularly Fig. 7.) The retainer has a tailpiece 90, which bears against a cam 91, which is placed on the sleeve 43 between the upper and lower parts of the canceling-cylinder, and, as will readily be understood, the contour of the cam is such as to cause the actuation of the retainer in the manner just described. The operative position of the retainer is partly indicated in dotted lines in Fig. 1.

The tailpiece 90 of retainer 85 is held in contact with cam 91 by a spring 851, connected with pins 852 852 on the pusher and retainer.

What I claim is—

1. In a mail-marking machine, the combination of canceling mechanism receiving and canceling the mail piece by piece, a pusher to stack the canceled pieces, a retainer working in a plane at right angles to the face of the stack, and means for causing said retainer to act against the face of the receiving-stack during the retraction of the pusher and to retire therefrom after the following piece of canceled mail has overlapped the stack, substantially as described.

2. In a mail-marking machine, the combination of a rotary canceling-cylinder and co-operating roller receiving and canceling the mail piece by piece, a reciprocating pusher means co-operating with the roller to remove the canceled piece transversely out of line with the delivery of the canceling mechanism into a receiving-stack with the mail previously canceled, a retainer working in the same direction as said pusher, and means for causing said retainer to act against the face of the receiving-stack during the retraction of the pusher and to retire therefrom after the following piece of canceled mail has overlapped the stack, substantially as described.

3. In a mail-marking machine, the combination of a rotary canceling-cylinder and co-operating roller receiving and canceling the mail piece by piece, a reciprocating pusher co-operating with the roller to remove the canceled piece out of line with the delivery of the canceling mechanism into a receiving-stack with the mail previously canceled, and a reciprocating retainer carried on the pusher,



advancing therewith, remaining advanced against the receiving-stack during the retraction of the pusher, and retiring after the following piece of canceled mail has overlapped the stack, substantially as described.

4. In a mail-marking machine, the combination of a rotary canceling-cylinder and cooperating roller receiving and canceling the mail piece by piece, a pusher and means to operate the same to place the rear edges of the successive pieces of mail in contact with the said cooperating roller, whereby such roller is caused to move said edges transversely out of the way of following pieces of mail, and stacking means for receiving the canceled mail and stacking it, substantially as described.

5. In a mail-marking machine, the combination of a rotary canceling-cylinder and cooperating roller receiving and canceling the mail piece by piece, a pusher at the delivery side of said cylinder and roller mounted to move transversely with relation to the latter, and means to actuate the said pusher to press the rear edge of the advancing piece of mail transversely into contact with the surface of the roller, whereby the roller is caused to complete the lateral shift of the rear portion of said piece of mail, substantially as described.

6. In a mail-marking machine, the combination of a rotary canceling-cylinder and cooperating roller receiving and canceling the mail piece by piece, the canceling-cylinder consisting of separated upper and lower parts, cams interposed between the said parts and rotating therewith, and stacking means for receiving the canceled mail and stacking it, operated through connections with the said cams, substantially as described.

7. In a mail-marking machine, the combination of a rotary canceling-cylinder and cooperating roller receiving and canceling the mail piece by piece, the canceling-cylinder consisting of separated upper and lower parts, cams interposed between the said parts and rotating therewith, a pusher reciprocated through connections with one of the said cams to stack the canceled pieces, and a retainer reciprocated through connections with another of the said cams to advance with the pusher, to remain advanced against the receiving-stack during the retraction of the same, and to retire after the following piece of canceled mail has overlapped the stack, substantially as described.

8. In a mail-marking machine, the combination of a feed-slide against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face of the stack, a side plate forming one side of a throat through which the pieces in the stack are successively fed, a throat-plate forming the other side of the said throat, means to hold the said throat-plate in place with yielding force, and an adjusting-screw to determine the normal position of the throat-plate substantially as described.

9. In a mail-marking machine, the combination of a feed-slide against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face of the said supply-stack, a throat-plate having the rear end thereof extended and mounted by a swiveling joint, the set-screws 38, 38, cooperating with the said throat-plate, and the spring for holding the throat-plate in normal working position, substantially as described.

10. In a mail-marking machine, the combination of a feed-slide against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face of the stack, a side plate forming one side of a throat through which the pieces in the stack are successively fed, a yielding throat-plate forming the other side of the said throat, and against which the advance end of the stack rests, and a yielding plate on the follower pressing against the same end of the stack and compressing said end against the said yielding throat-plate, substantially as described.

11. In a mail-marking machine, the combination of a feed-slide against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face of the stack, a side plate forming one side of a throat through which the pieces in the stack are successively fed, a yielding throat-plate forming the other side of the said throat, and against which the advance end of the stack rests, and a plate on the follower pressing against the same end of the stack and spring-held in an intermediate position so as to yield or advance automatically, substantially as described.

12. In a mail-marking machine, the combination of a feed-slide against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face of the stack, a fixed and rigid side plate forming one side of a throat through which the pieces in the stack are to be successively fed and beveled substantially as described adjacent to the throat, and a yielding throat-plate forming the other side of the throat, substantially as described.

13. In a mail-marking machine, the combination of a backing-plate, a feed-slide reciprocating in ways thereon and against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face of the stack, a side plate forming one side of a throat through which the pieces in the stack are successively fed, and a yielding throat-plate forming the other side of the said throat and supported on the backing-plate on a universal pivot-pin projecting into a recess in the backing-plate and taking bearing only at the bottom of the recess, substantially as described.

14. In a mail-marking machine, the combination of a backing-plate, a feed-slide reciprocating in ways thereon and against which one face of the supply-stack rests, a yielding follower exerting pressure upon the other face



- of the stack, a side plate forming one side of a throat through which the pieces in the stack are successively fed, and a yielding throat-plate forming the other side of the said throat and supported on the backing-plate on a rear pivot and two forward contact-points whereby either the upper or lower portions of the throat-plate may yield independently, substantially as described.
- 10 15. In a mail-marking machine, the combination of canceling mechanism receiving and canceling the mail piece by piece, a reciprocating pusher to receive and stack the canceled pieces, a yielding plate compressing the stack only at the end thereof unoccupied by the postmarks previously affixed, and a re-  
15 tainer operating against the face of the stack during the retraction of the pusher to prevent an abnormal degree of spreading of the stack and retiring therefrom after the following piece of canceled mail has overlapped the stack, substantially as described.
- 20 16. In combination, the feeder to advance a card or the like edgewise, a side plate, a  
25 throat-piece having between the same and

the said side plate a throat for the passage of the said card or the like, and means to adjust said throat-piece to vary the width of said throat and in addition to enable the width of said throat at the top and bottom thereof, respectively to be regulated independently, substantially as described. 30

17. In combination, the feeder, the side plate, the end plate, the throat-piece having a rounded bearing on which it is adapted to rock in different planes, and means to adjust the said throat-piece to vary the width of the throat, substantially as described. 35

18. In combination the feeder, the side plate, the end plate, the throat-piece having a rounded bearing on which it is adapted to rock in different planes, and a spring tending to hold said throat-piece to its normal position, substantially as described. 40

In testimony whereof I affix my signature 45 in presence of two witnesses.

JOSEPH FRENCH.

Witnesses:

LEPINE HALL RICE,  
OSCAR F. HILL.